

## Claims

1. A lubricative composition for industrial machinery and equipment, said composition comprising a base oil selected from mineral oils, fats and oils, synthetic  
5 oils and mixtures of two or more of them, and at least one additive selected from the following components (A) to (D):

component (A):

(A-1) a phosphorus-containing carboxylic acid and/or (A-2) a thiophosphoric ester;

10 component (B): a dispersant viscosity index improver;

component (C):

the following component (C-1) and/or component (C-2):

component (C-1): at least one kind of a compound represented by the following formulas (1) to (3):



wherein  $R^1$  is an alkyl group having 6 to 30 carbon atoms or an alkenyl group having 6 to 30 carbon atoms,  $R^2$  is an alkyl group having 1 to 4 carbon atoms,  $X^1$  is hydrogen, an alkyl group having 1 to 30 carbon atoms or an alkenyl group having 1 to 30 carbon atoms, and  $n$  is an integer of 1 to 4,



wherein  $R^1$  is an alkyl group having 6 to 30 carbon atoms or an alkenyl group having 6 to 30 carbon atoms,  $R^2$  is an alkyl group having 1 to 4 carbon atoms,  $Y^1$  is an alkali metal or an alkali earth metal,  $n$  is an integer of 1 to 4, and  $m$  is 1 when  $Y^1$  is an alkali metal and 2 when  $Y^1$  is an alkali earth metal, and



wherein  $R^1$  is an alkyl group having 6 to 30 carbon atoms or an alkenyl group having 6 to 30 carbon atoms,  $R^2$  is an alkyl group having 1 to 4 carbon atoms,  $Z$  is a residue having a hydroxyl group removed from a polyhydric alcohol with two or more

valences, m is an integer of 1 or more, m' is an integer of 0 or more, m + m' is a valence number of Z, and n is an integer of 1 to 4,

component (C-2): a compound represented by the following formula (4):



5        wherein  $R^3$  is an alkyl group having 7 to 29 carbon atoms, an alkenyl group having 7 to 29 carbon atoms or a group represented by the formula (5):



      wherein  $R^4$  is an alkyl group having 1 to 20 carbon atoms or hydrogen; and

component (D): an ester oiliness improver.

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2.        The lubricative composition according to claim 1 as a gear oil composition, wherein the additive is at least one selected from the component (A) to component (C).

3.        The lubricative composition according to claim 1 as a lubricating oil composition  
15        for paper machines, wherein the additive is at least one selected from the component (A) to component (C).

4.        The lubricative composition according to claim 1 as a lubricating oil composition  
for slide guides, wherein the additive is at least one selected from the component (A) to  
20        component (C).

5.        The lubricative composition according to claim 1 as a lubricating oil composition,  
wherein the additive comprises the phosphorus-containing carboxylic acid compound of  
the component (A-1) and the dispersant viscosity index improver of the component (B).

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6.        The lubricative composition according to claim 1 as a lubricating oil composition,  
wherein the additive comprises the thiophosphoric ester of the component (A-2) and the  
dispersant viscosity index improver of the component (B).

7. The lubricative composition according to claim 1 as a lubricating oil composition, wherein the additive comprises the ester oiliness improver of the component (D) which is an ester of a polyhydric alcohol and a fatty acid of monobasic acids.

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8. The lubricative composition according to claim 7, wherein the ester oiliness improver of the component (D) which is an ester of a polyhydric alcohol and a fatty acid of monobasic acids is any one selected from the following esters of (D-1) to (D-3):

(D-1): an ester of a polyhydric alcohol and an unsaturated fatty acid containing a  
10 partial ester with the degree of esterification of 1 and a partial ester with the degree of esterification of 2 or more;

(D-2): a whole ester of a polyhydric alcohol and a mixture of fatty acids, wherein the fatty acids are short-chained fatty acids and long-chained fatty acids; and

(D-3): an ester of a polyhydric alcohol and a branched saturated fatty acid  
15 containing a partial ester with the degree of esterification of 1 and a partial ester with the degree of esterification of 2 or more.

9. The lubricative composition according to claim 8, wherein the lubricating oil composition is a hydraulic oil.